WOMT Notes

April 7, 2015 Meeting

1. *General Information*:

CVP

- *Keswick Release to upper Sacramento River @ 3250 cfs*
- *Nimbus Release to lower American River @ 500 cfs*
- *Goodwin Release to Stanislaus River @ 200 cfs, 2nd part of pulse flow not started yet .*
- *Jones Pumping Plant @ 950 cfs*
- *Delta Cross-Channel Gates: Closed.*
- *Federal Share of San Luis 394 TAF*

SWP

- *Oroville Release to Feather River @ 1000 cfs, reduce to 800 cfs tomorrow*
- *Clifton Court Allotment @ 525 cfs*
- *State Share of San Luis @ 947 TAF*

Delta

- *Freeport Flow approx. 7,300 cfs*
- *Vernalis Flow approx. 800 cfs*
- *Delta Outflow approx. 5,400 cfs*

OMR (cfs):

- INDEX (as of 4/4/2015):

  5 day average: -1400 cfs,

- USGS (as of 4/4/2015):

  5-day: -1200 cfs

FISHERY UPDATES:

DOSS

Entrainment risk of fish from the Sacramento River into the Interior Delta (same as last week except for tidal conditions)

DOSS noted that generally, there is an increased risk of entrainment into the interior Delta during spring tides, compared to during neap tides, at any OMR level. During a spring tide, tidal conditions extend further upstream and may, for example, create conditions at Georgiana Slough (e.g. reverse flows) that are associated with routing into Georgiana Slough, a route to the interior Delta. Currently, the Delta is entering a neap tide (quarter moon is on Sunday, 4/12).

Entrainment risk of fish in the Interior Delta into the CVP/SWP facilities (same as last week)

DOSS assessed the current risk of entrainment for YOY winter-run Chinook salmon. For both naturally-produced and hatchery-produced YOY winter-run in the Delta, the current risk of entrainment for each OMR flow ranges was characterized as follows:

- -1,200 to -2,000 cfs has a medium risk of entrainment
- -2,000 to -3,500 cfs has a medium to high risk of entrainment
- -3,500 to -5,000 cfs has a high risk of entrainment
- more negative than -5,000 cfs has a higher risk of entrainment

DOSS estimated a high risk of entrainment at OMR flows of -3,500 cfs or more negative than

-3,500 cfs, since salvage of salmonids (including 4 clipped Chinook -- in the winter-run size range based on the length-at-date criteria -- at the SWP on Monday, 2/23) has been observed over recent days at those OMR levels. The less negative ranges of OMR flow were considered to create medium or medium-high risk of entrainment because 1) currently there are physiological cues for migration (i.e. high temperatures)

which increases the vulnerability of migrating fish across even the lower ranges of OMR; and 2) the threshold for exceeding a trigger is low, which means that even low salvage is associated with a fairly high risk of exceeding an OMR trigger.

Is it expected that the storm event will trigger movement of fish and we may see increased salvage.

Fish Distribution

DOSS estimates of the current distribution of listed Chinook, as a percentage of the population, are based on recent monitoring data and historical migration timing patterns. The table below reflects current distribution, but DOSS expects an increased proportion of fish to exit the system next week due to the recent storm event.

Location	Yet to Enter Delta (Upstream of Knights Landing)	In the Delta	Exited the Delta (Past Chipps Island)
Young-of-year (YOY) winter-run Chinook salmon(naturally produced)	Few stragglers only (last week: Same)	40% (last week: 50%)	60% (last week: 50%)
YOY winter-run Chinook salmon (hatchery-produced)	Few stragglers only (last week: same)	40% (last week: 50%)	60% (last week: 50%)
YOY spring-run Chinook salmon[A]	~5% (last week: 5% - 15%)	60% (last week:70% - 80%)	40% (last week:20%-25%)
Yearling spring-run Chinook salmon[B]	Few stragglers only (last week: same)	10% (last week: 10%-30%)	90% (last week:70%-90%)
Hatchery Steelhead[C]	5% (last week: ~10% all hatchery fish)	15% (last week: 25% all hatchery fish)	85% (last week: 65% all hatchery fish)
Sacramento River steelhead (naturally-produced)	Limited catch data		
San Joaquin River steelhead[D]	10% (last week: 15%)	50% (last week: 60%)	35% -40% (last week:25% - 30%)

[A] Chipp Island Trawl data of spring-run is difficult to interpret now that the 75% unmarked fall-run productions are likely masking the wild spring-run Chinook catch.

[B] No yearling spring-run Chinook salmon have been caught in 2014 monitoring. In general, very few yearling spring-run Chinook salmon are observed because of their relatively large size and strong swimming (and associated gear avoidance) abilities.

[C] Difficult to assess now that all hatchery releases are in the system (CNFH, Feather River Fish Hatchery, and Mokelumne Fish Hatchery released as usual; Nimbus Hatchery released their steelhead in the spring of 2014 because of expected unsuitable hatchery water temperatures during the summer of 2014). Percentages are intended to capture distribution of steelhead that migrate out; not those that may residualize.

[D] Have not observed juvenile steelhead in monitoring data; Distribution estimates are based on 10 years of historical data from Mossdale Trawls, and RST data from Caswell Park on the Stanislaus River.

SWG – Group met Monday, no advice. Proposed operations for week adequately protective of Delta smelt and longfin.

NMFS – No determination needed.

USFWS – No determination at this time.

DFW – No determination.

SWRCB:

- **Division of Water Rights –** TUCP Order Issued by SWRCB; posted on their website
- **Office of Delta Watermaster** - Nothing to report.

2. WOMT Decisions - None